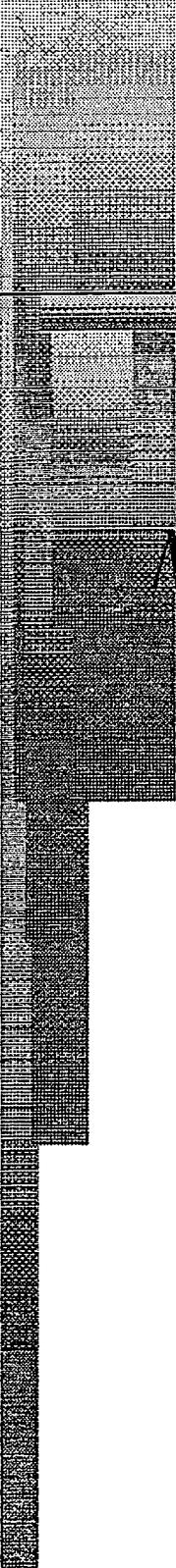


# *MasterLink: Introducing the Concept*

*Presented to  
**Maintenance &  
Diagnostics, LLC***

*E.x.b.t 1*

*by Garry L. Fenimore - President, MasterLink Corporation*



# *MasterLink Deliverables to the Electric Power Industry*

- *Facilities Automation Simplification Technology (FAST): A Paperless Workorder Management System with Industry-Specific Capabilities*
- *Expert Problem Domain Analysis*
- *Mobile Workforce Management Innovation*

## *FAST Client-Server Software, Automated Functions Include:*

- *System Implementation*
- *Job Creation/Planning*
- *Job Scheduling*
- *Paperless Workorder Dispatching/Management*
- *Field Data Acquisition*
- *Policy Management*
- *Management Reporting*
- *Wireless Control of Mobile Workers*

# *Electric Power Industry Domain Analysis Activities:*

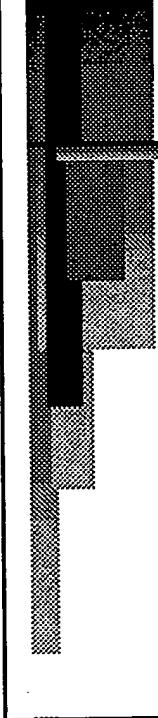
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- *Definition of Scope*
- *Formulate Work System Charter Statement*
- *Develop Use-Cases (scripting)*
- *Create Domain Dictionary*
- *Design System Construction Parameters*
- *Map Legacy Data*
- *Adapt Core **FAST** Functionality to the Electric Power Industry*

# *Electric Power Industry - Work Process Innovation*

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- *Benchmark Data - Internal & External*
- *Develop Optimal Skill Resource Utilization Factors*
- *Implement Intelligent Algorithms to Initiate Changes*
- *Investigate Outsourcing Opportunities*
- *Seek Out “Best of Class” Models from Other Industries to Emulate in the Electric Power Industry*



## ***Why MasterLink?***

- ***Unique Concept***
- ***Superior Design***
- ***Vision for the Future***

### I. The Purpose of Today's Presentation Is To:

- A. Explain Why the MasterLink's Solid, Simple, and Foundational Design Concept is Unique
- B. Demonstrate the Design Integrity
- C. Share a Vision of the Future of Mobile Work Management

### II. The Goals of Today's Presentation Are To:

- A. Validate M&D's Belief in MasterLink Concept
- B. Establish and Investigate the Basis for Forming a Long-Term Partnership

## ***Elements Common to All Work Environments***

- ***Targets - Anything You Aim to Work On***
- ***Resources - Human & Material***
- ***Time***
- ***Objectives (work)***
- ***Rules (policy)***

- I. Targets are anything requiring action. May be a physical entity, or a process.
- II. Resources are the people or material required to accomplish work.
- III. Work is the successful combination of resources, materials, and time.
- IV. Policy is definite method of action, selected from alternatives, based on conditions and results. Policy controls the interactions of all facilities/equipment requiring work, corporate resources performing work, and the reporting measures required to monitor the results.

\* Note, MasterLink defines a “facility” as more than a physical entity built to serve a particular purpose. A facility is any infrastructure, physical or logical, that enables enterprise activity.

## *Domain Specific Elements*

### **■ Definitions**

- **Resources**

- *skills*

- *materials*

- **Targets**

- *classification*

- *work requirements*

### **■ Objectives (work)**

### **■ Rules (policy)**

As you can see, the only difference between the generic and specific is the definition of a particular domain. A domain is a sphere or field of action, interest, or knowledge.

## *The Key to Defining a Domain: A Method of Classification*

**CSI MASTERFORMAT Provides the  
Foundation for MasterLink's Work  
Taxonomy System**

- **MasterLink Extends CSI to Create A  
Generic Work Architecture**

### I. What Is CSI MASTERFORMAT?

CSI MASTERFORMAT is a system of numbers and titles for organizing construction information into a regular, standard order or sequence. By establishing a master list of titles and numbers, MASTERFORMAT promotes standardization and thereby facilitates the retrieval of information and improves construction communication.

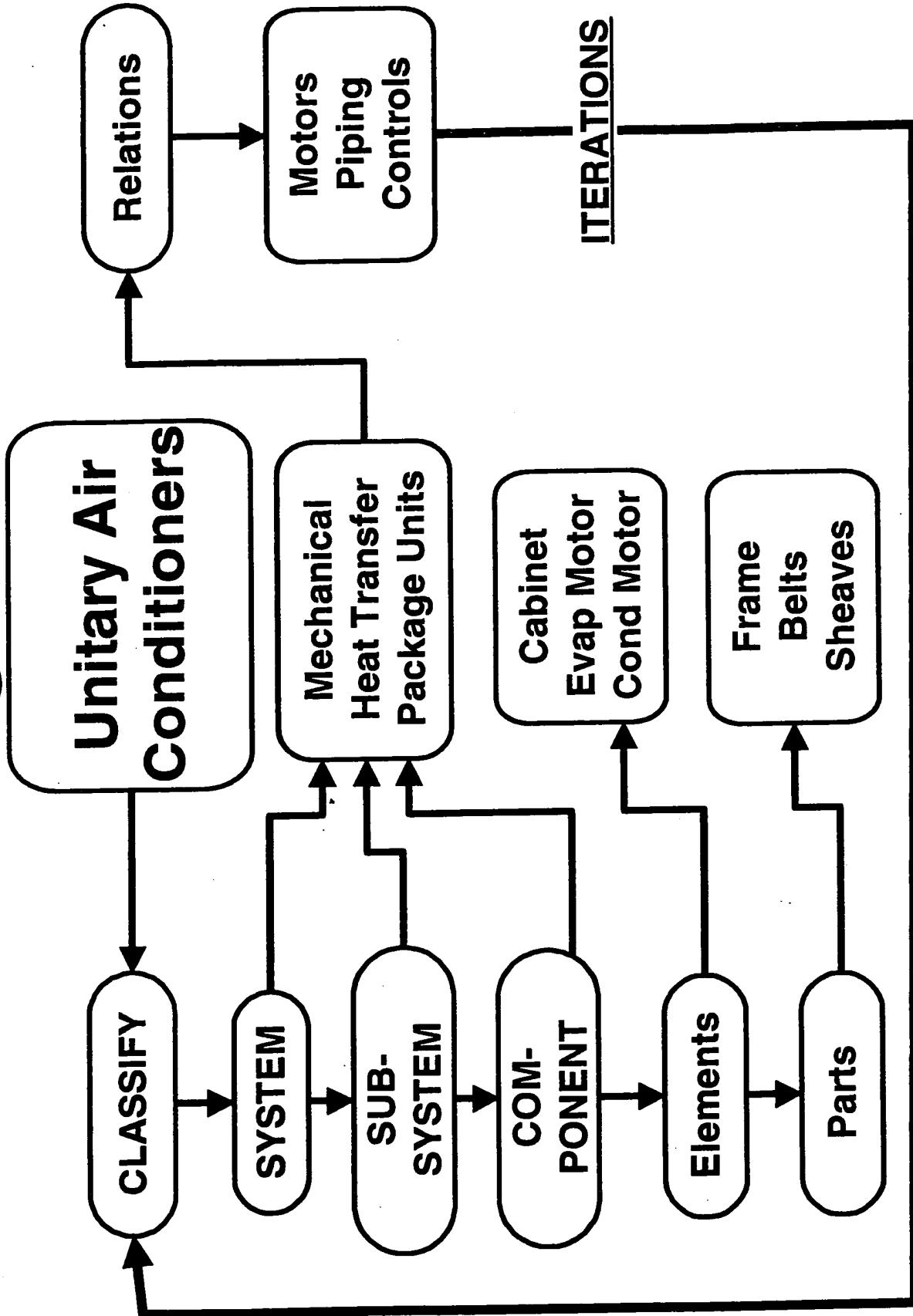
### II. FAST Integrates MASTERFORMAT with MasterLink's Automated Work Taxonomy System, by:

- Starting with CSI's System/Machine Classification Method
- Adding Work Objectives
- Adding Skill/Material Requirements
- Formulating Base Time Requirements
- Creating Rules Templates

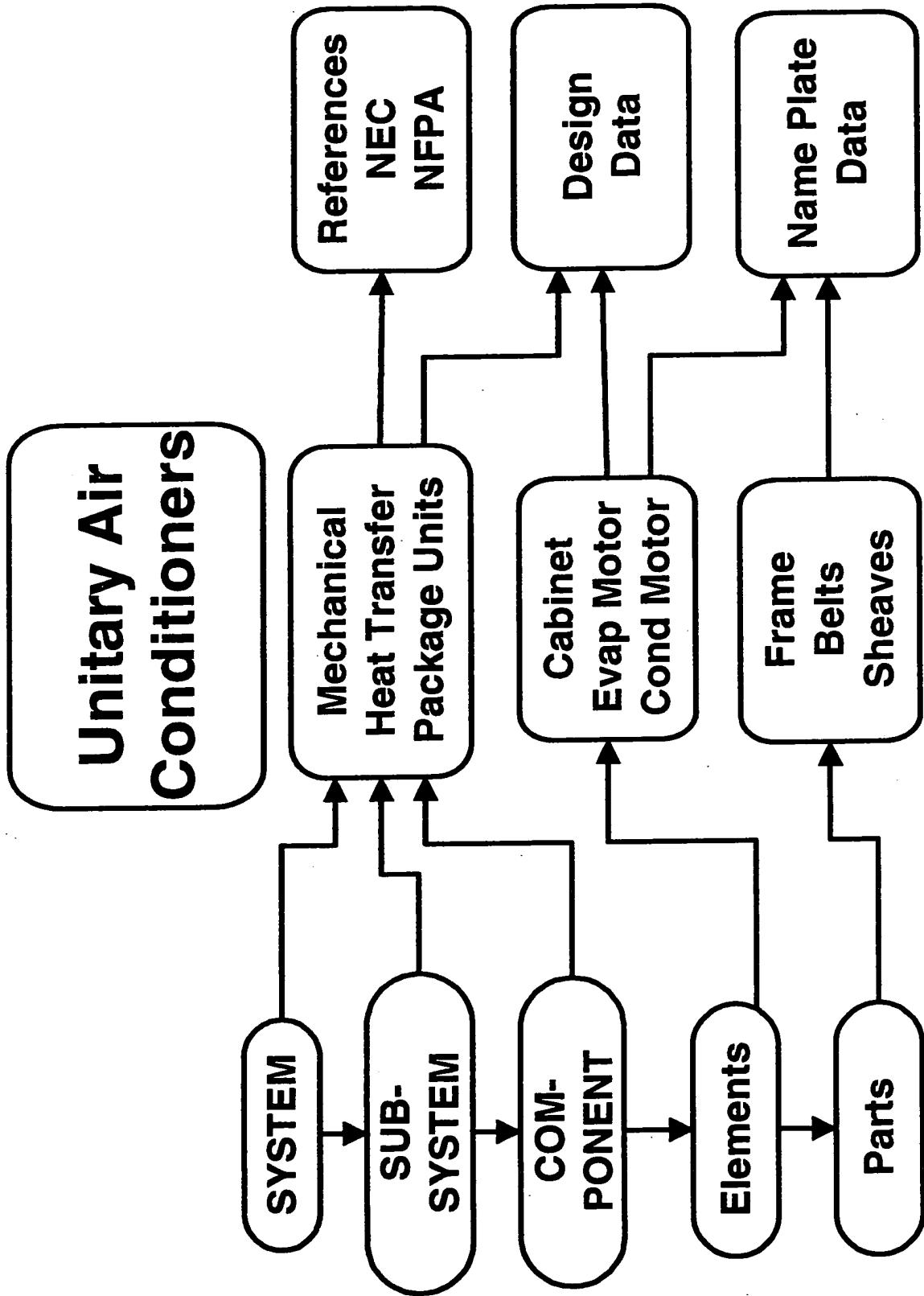
### III. Show the Following Slides

- Work Target Definition
- Target Design Data Definitions
- Target Task Definitions

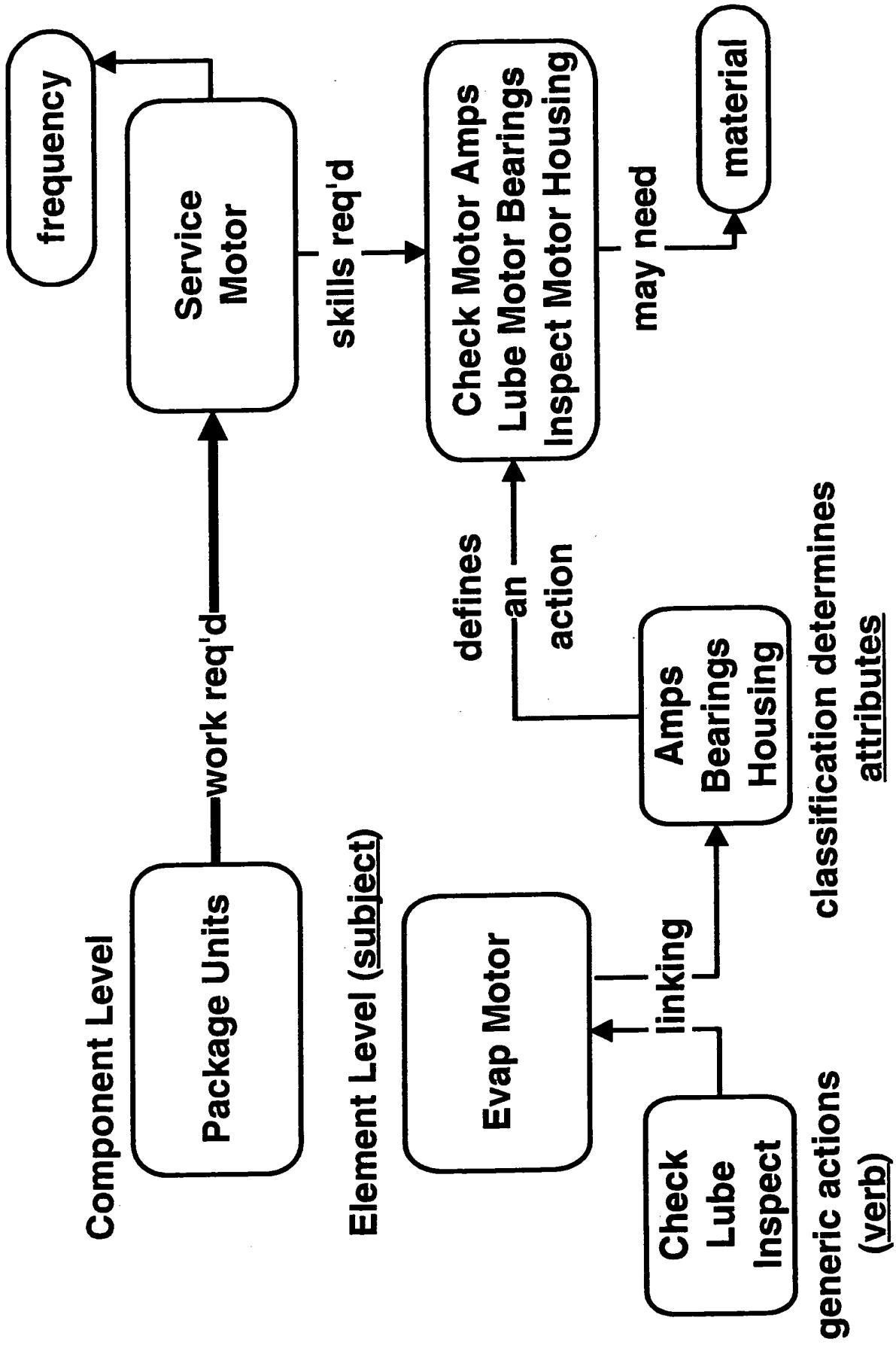
# Work Target Definition



# Target Design Data Definition



# Target Task Definitions



## ***AST Implements Standardized Data Structures***

- Reduce Implementation Costs**
- Encourages Benchmarking**
- Enables Customized Information Display**
- Deliverable with Current Technologies**
- Easily Extendible**

I. No More Proprietary Systems!

II. Allows for True "Apples to Apples" Comparisons

III. Displays Information Based On the Resource Receiving It

- an electrician sees electrical information
- a mechanic sees mechanical information
- a manager sees what he/she needs to make informed choices

IV. Because We Are Text-Based - We Can Do What We Say!

- we can work within existing rf bandwidth capabilities
- we can use off-the-shelf hand-held units to accomplish our goals

V. We Can Extend Our Core System Functionality Into Other Areas

- Energy Mgmt. - Security/Life Safety - Production
- Engineering - Purchasing - Accounting

## *What Is Policy?*

### ***It Is a Collection of:***

- ***Target Definitions***
- ***Task Definitions***
- ***Rules for Planning***
- ***Rules for Scheduling/Dispatching***

**■ *It Is For One or More Sites***

**■ *Is Owned/Maintained by Manager***

### Show the Following Slides

- Target Definition
- Task Definition
- Resource
- Job

## *Why Start With Facilities?*

### **■ Size and Scope**

- **US. Commercial Market**
- **Costs of Operations & Maintenance**

### **■ Relevance to MasterLink**

- **Commonality Factor**
- **Complex Domain**

### **■ Easy Extension Into the Enterprise**

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#### I. What Is the Facilities Domain and Why is it Important? SIZE!

- Size 218,000 commercial buildings >50,000 s.f. = 40 billion s.f., not including military or manufacturing
- Owners/Operators spend at least \$325 Billion dollars/year in operating and maintenance costs

#### II. Why is it Relevant to MasterLink? Horizontal Market Access !

- Facilities are common to all business
- Operation and management of physical facilities is complex
- Involves elements found in sophisticated manufacturing or service operations.
  - legacy systems
  - logistics
  - material management
  - labor management
  - customer service

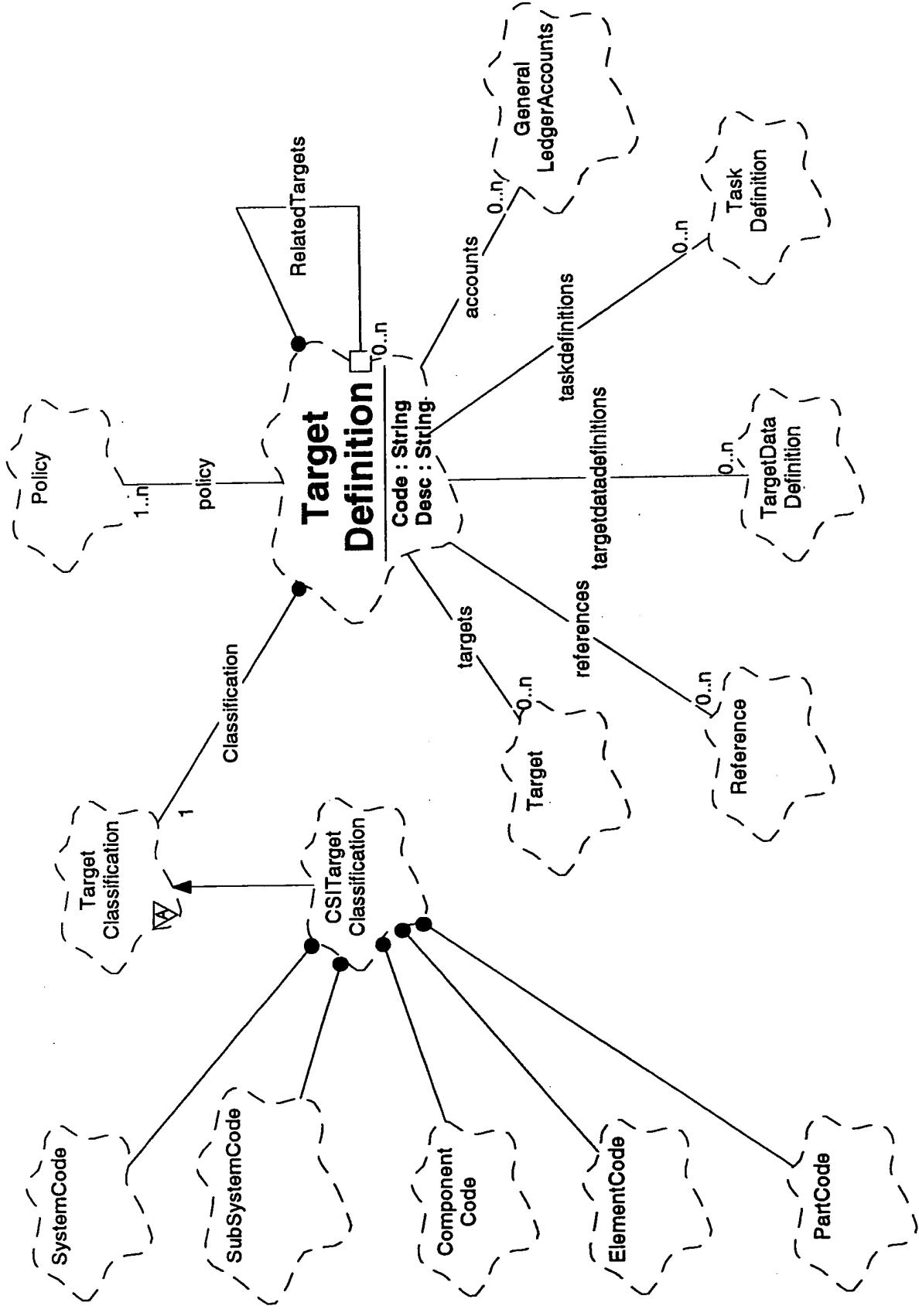
## *&D and MasterLink: The Same Goals*

- **Optimize Operation & Maintenance**
- **Develop Adaptive Strategies**
- **Focus on Mobile Workers**
- **Improve Management Skills**
- **Deliver Value-Adding Services**
- **Improve Our Knowledge Base for  
Our Customers Benefit**

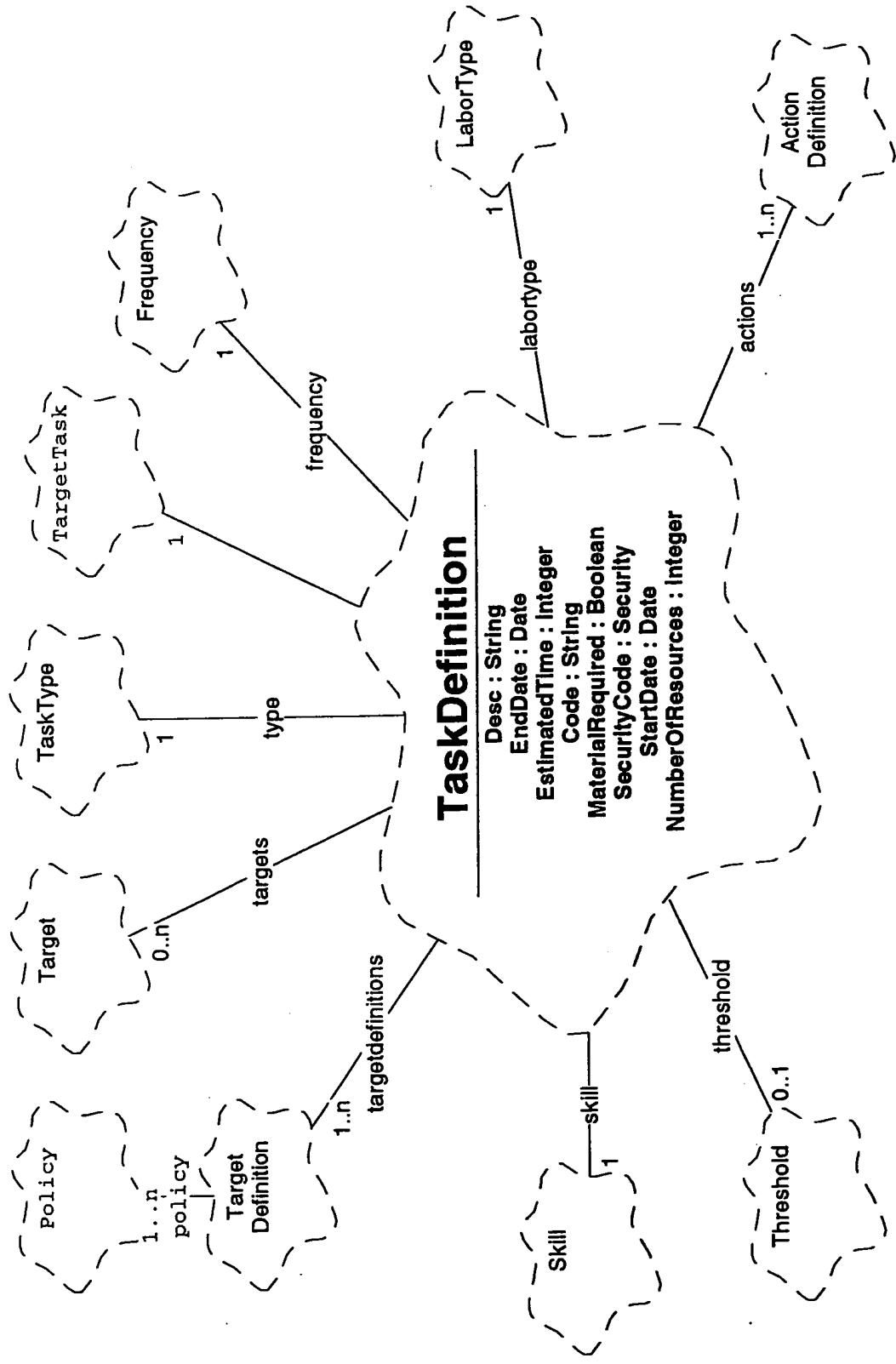
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**please refer to the following two pages**

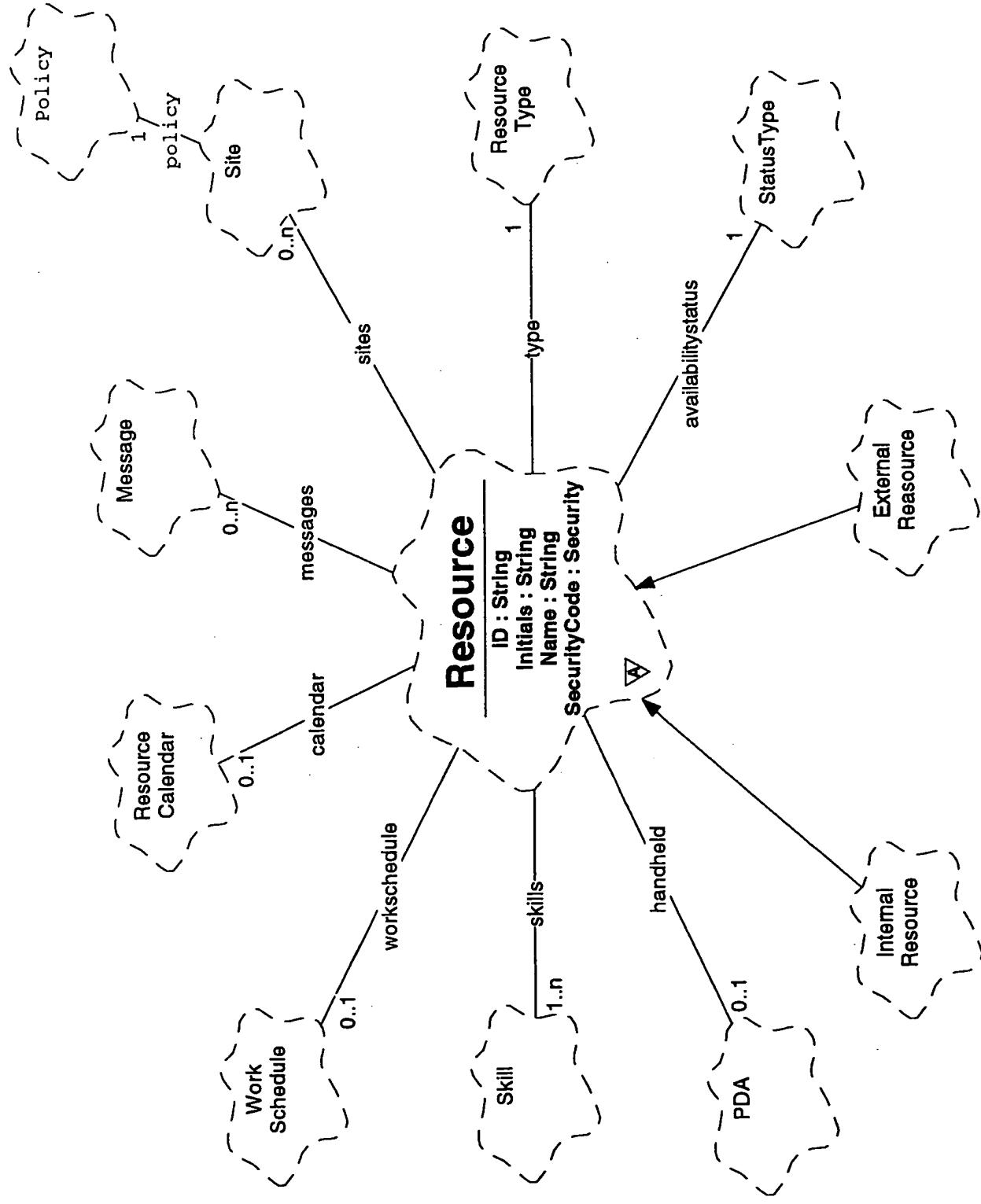
# TARGETDEFINITION CLASS



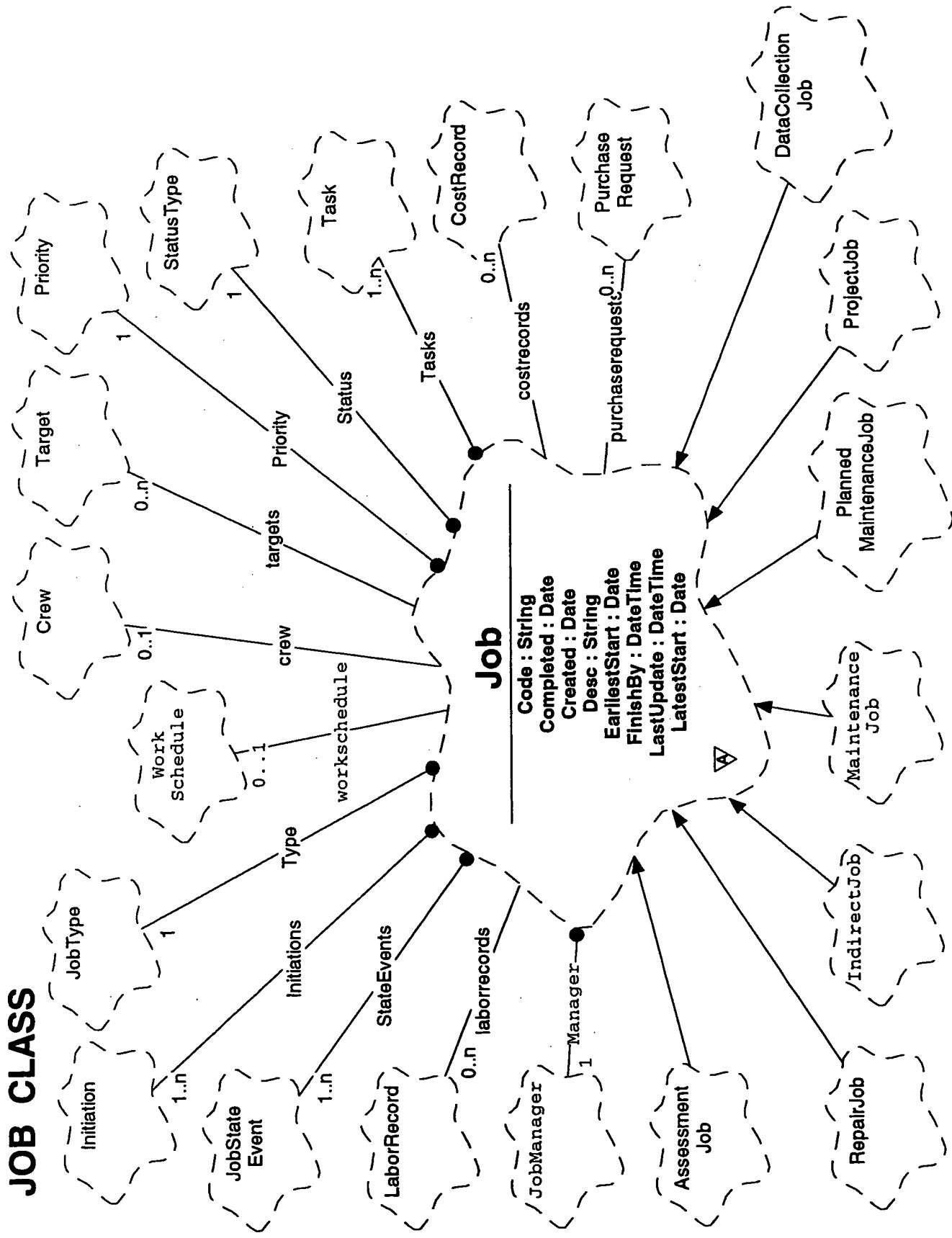
# TASKDEFINITION CLASS



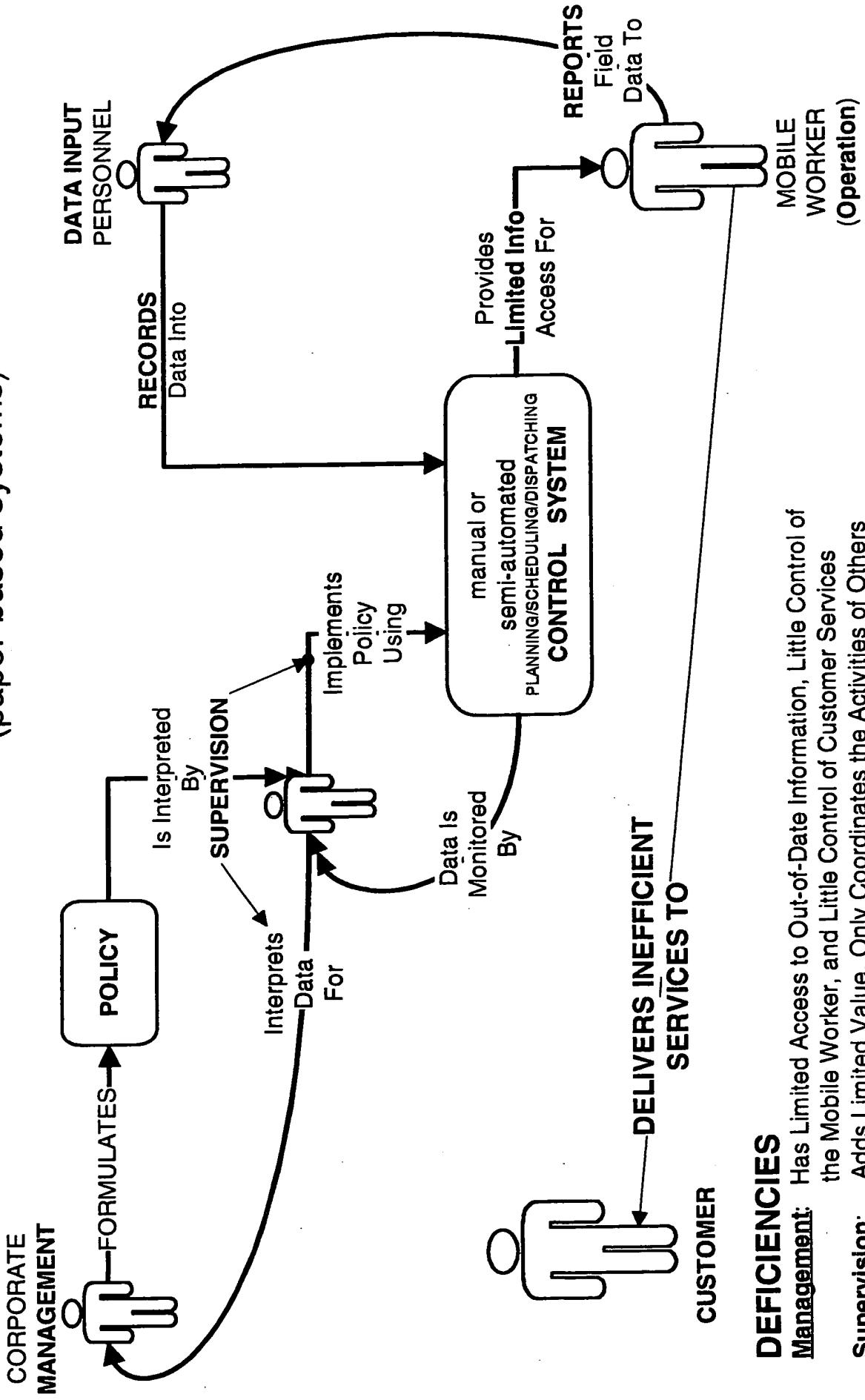
## RESOURCE CLASS



## JOB CLASS



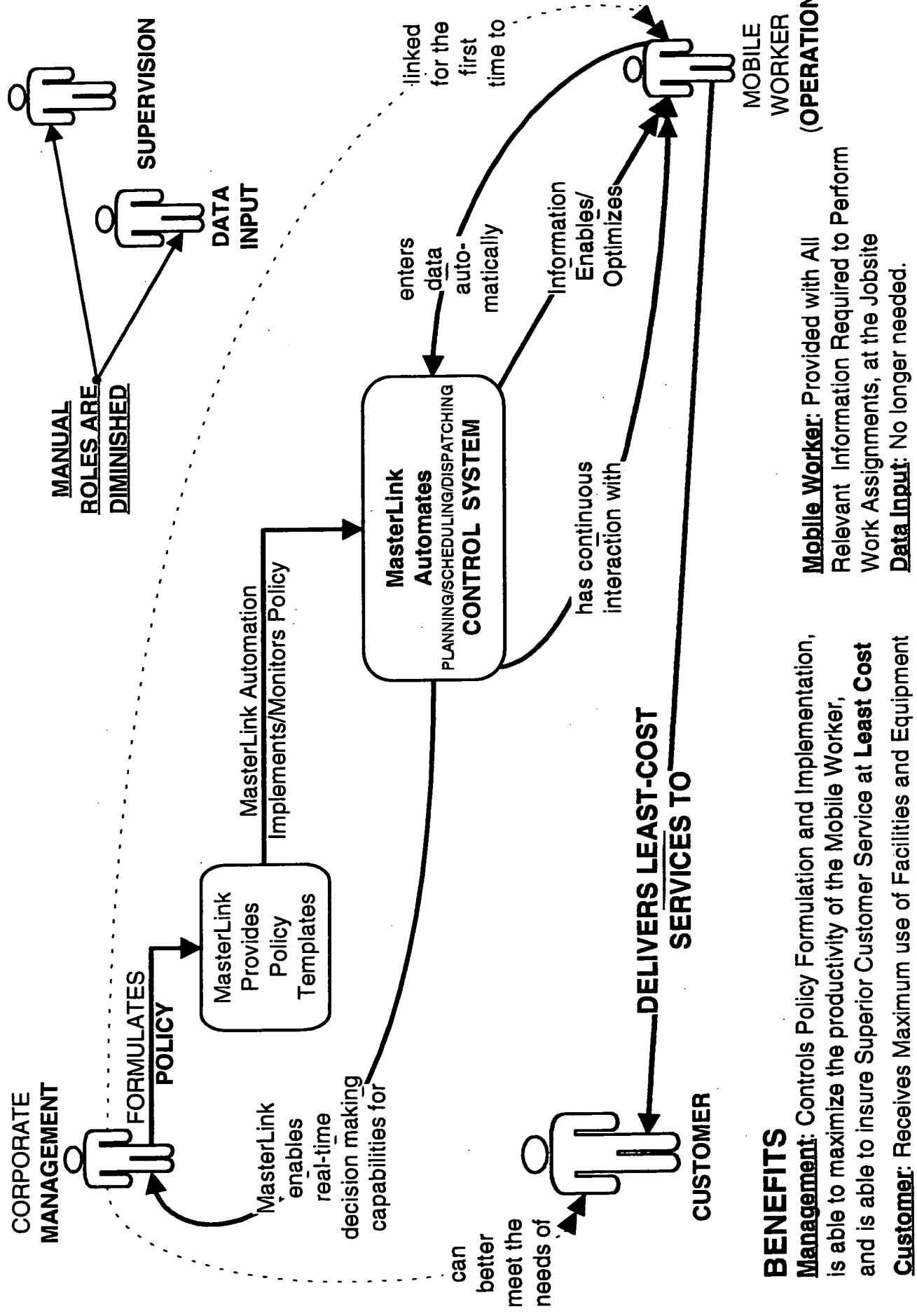
## THE PROBLEM: Mobile Workflow Process (paper-based systems)



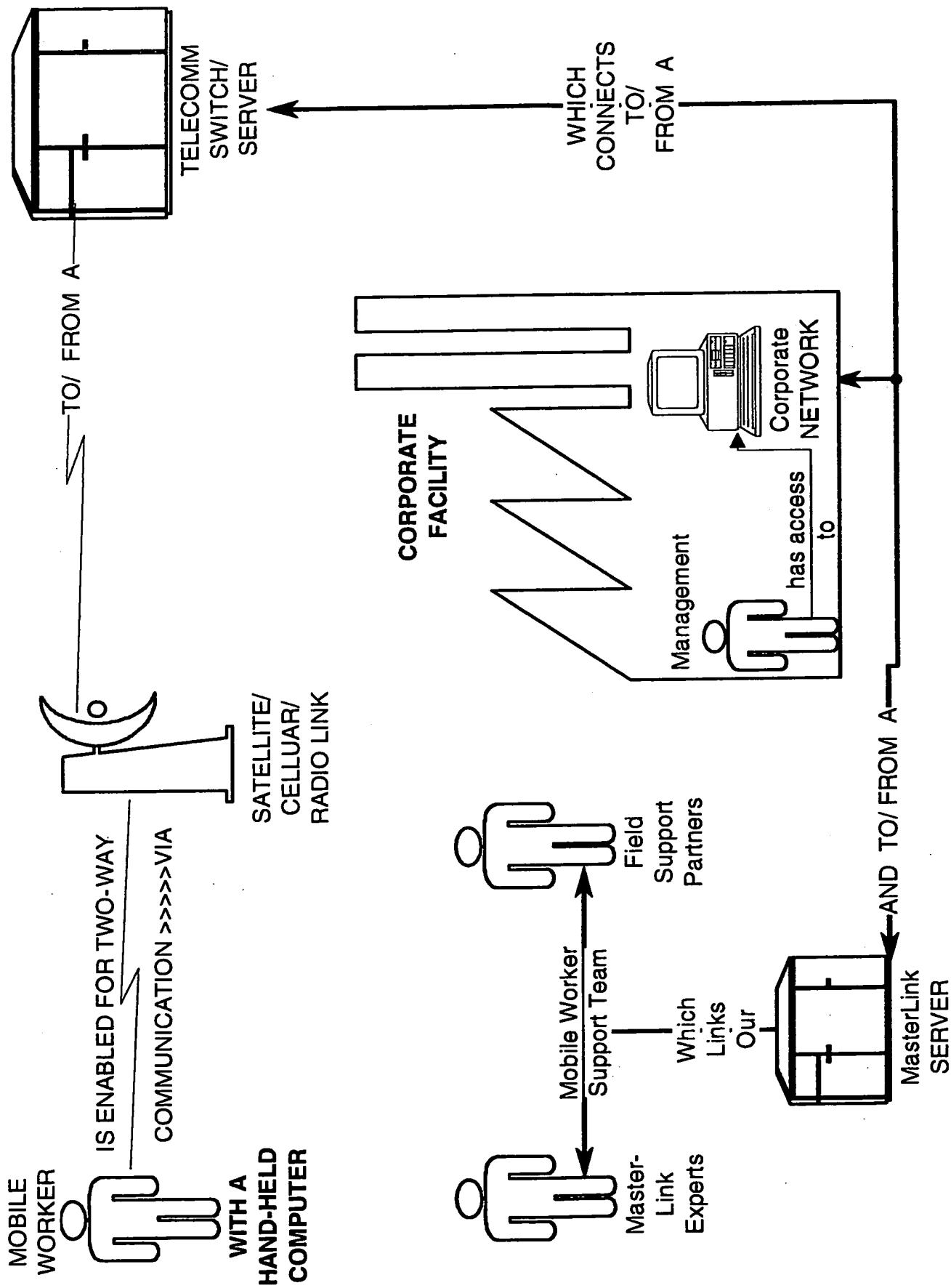
### DEFICIENCIES

- Management:** Has Limited Access to Out-of-Date Information, Little Control of the Mobile Worker, and Little Control of Customer Services
- Supervision:** Adds Limited Value, Only Coordinates the Activities of Others
- Data Input :** Does Not Add Value, Only Records the Activities of Others
- Mobile Worker:** No Jobsite Access to Advice, History, or Other Assistance
- Customer:** Receives Poor Service Delivered With Inconsistent Quality

## THE SOLUTION: FAST-Enabled Facilities Process



## THE IMPLEMENTATION: MasterLink Value Delivery Chain



MasterLink has many of the same goals as Maintenance & Diagnostics, LLC. The purpose of this document is to show how the two companies may develop synergy by mutually supporting each others objectives.

**M&D Goal:** **Establish and maintain strategic advantage for optimizing operation and maintenance practices through programmatic application of technologies.**

**MasterLink Contribution:**

Our long-term strategy for our Facilities Automation Simplification Technology (**FAST**) architecture is to enable the integration and coordination of all corporate information resources to improve productivity and profitability. **FAST** can be the **Master-Link** used to join various specialized chains of automation common to all businesses, such as the following:

* maintenance	*	security	*	life/safety
* environmental	*	production	*	administration
* engineering	*	accounting	*	purchasing
* sales	*	customer service	*	information systems

We believe that our ultimate success will be driven by our ability to become an indispensable source of work process management, and mobile workforce innovation for our customers.

**M&D Goal:** **Develop, optimize, and implement adaptive maintenance strategies, products, and services.**

**MasterLink Contribution:**

**FAST** creates a sustained linkage between strategy and the way work is done through the use of policy templates. These templates are the “rules book” that controls the interactions of all facilities/equipment requiring work, corporate resources performing work (internal & external), and the reporting measures required to monitor the results. This gives corporate management the ability to adjust their tactical operations on an as-needed basis. The result is continuous process improvement with the accompanying economic benefit of least-cost services delivery for our customers and partners.

**M&D Goal:** **Focus on improving skills and decision making of client front-line, hands-on workers.**

**MasterLink Contribution:**

**FAST** manages all activities at the task level by providing step-by-step instructions, situation assessment or diagnostic advice, historical data, even training information to the jobsite via a hand-held computer. The availability of these aides, with **FAST** governing the entire work order process, eliminates time-wasting activities and gives management unparalleled control of the work force. The result is a 30%, or more, increase in crew productivity.

**M&D Goal:** **Improve skills of managing change for managers and supervisors in applying new processes of technologies and applications.**

**MasterLink Contribution:**

Policy level, or operational level managers can easily use **FAST** to extract complex information that is presented in easy-to-understand format. **FAST** gives management the freedom to change operating policy as often as needed to adapt to changing conditions. Additionally, **FAST** will actually track the effectiveness of policy decisions made, manager-by-manager, to improve accountability.

**Additional MasterLink Contributions:**

- \* M&D can use **FAST** to become a more efficient service provider, enabling it to outsource more work for its customers.
- \* M&D can use **FAST** to express its corporate knowledge in a state-of-the-art information delivery system to help its customers remain competitive.
- \* M&D can participate, with equity, in MasterLink to develop and deploy a unique value-adding product with extraordinary market potential.

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